

### ABSTRACT

Compositions and methods are provided whereby sublamination materials and layers may be produced that comprise a) a single layer etched reference plane having a top surface and a bottom surface; b) a first signal layer coupled to the top surface with a first bond-ply material; c) a second signal layer coupled to the bottom surface with a second bond-ply material; and d) at least one of a through via. Printed wiring boards may be produced that comprise a) a substrate layer, and b) a sublamination layer laminated onto the substrate layer, and c) at least one additional layer coupled to the sublamination layer or material.

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